



Application No. 10/645,311
Paper Dated October 22, 2004
In Reply to USPTO Correspondence of June 24, 2004
Attorney Docket No. 0388-031585

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A grass collecting apparatus for directing grass clippings cut by a mower unit to a grass catcher, the apparatus comprising:

a grass collecting duct for guiding the grass clippings from the mower unit to the grass catcher, the duct having an outlet portion leading to the grass catcher defined by an upper plate, right and left side plates and a bottom plate;

a gate-shaped frame disposed in a boundary between the outlet portion of the grass collecting duct and an opening of the grass catcher, the gate-shaped frame having an upper edge and a lower edge, wherein a first axis for swinging the grass catcher extends in association with the upper edge of the gate-shaped frame, and a second axis for tilting the bottom plate extends in association with the lower edge of the gate-shaped frame; and

a swing mechanism for swinging the grass catcher about the first axis between a grass collecting position with the opening of the grass catcher being opposed to the gate-shaped frame and a grass discharging position with the opening of the grass catcher being directed downward, the bottom plate being tilted about the second axis toward the gate-shaped frame; ~~wherein the bottom plate provided in the outlet portion is arranged to receive the grass clippings falling off an area around the gate shaped frame when the grass catcher is in the grass collecting position, and the bottom plate provided in the outlet portion is displaced to a position with a surface thereof being tilted when the grass catcher is swung about the first axis from the grass collecting position to the grass discharging position.~~

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) A grass collecting apparatus as defined in Claim 1, wherein ~~the bottom plate is swingable by the swing mechanism~~ further swings the bottom plate to be as interlocked to swinging of the grass catcher from the grass collecting position to the grass discharging position.

5. (Original) A grass collecting apparatus as defined in Claim 1, wherein the gate-shaped frame has a passing-through opening, through which the opening of the grass catcher in the grass collecting position communicates with the outlet portion of the grass collecting duct.

6. (Currently Amended) A riding-type lawn mower including a grass collecting apparatus extending along a fore and aft direction of a vehicle body for directing grass clippings cut by a mower unit to a grass catcher, the grass collecting apparatus comprising;

a grass collecting duct for guiding the grass clippings from the mower unit to the grass catcher, the duct having an outlet portion leading to the grass catcher defined by an upper plate, right and left side plates and a bottom plate;

a gate-shaped frame disposed in a boundary between the outlet portion of the grass collecting duct and an opening of the grass catcher, the gate-shaped frame having an upper edge and a lower edge, wherein a first axis for swinging the grass catcher extends in association with the upper edge of the gate-shaped frame, and a second axis for tilting the bottom plate extends in association with the lower edge of the gate-shaped frame; and

a swing mechanism for swinging the grass catcher about the first axis between a grass collecting position with the opening of the grass catcher being opposed to the gate-shaped frame and a grass discharging position with the opening of the grass catcher being directed downward, the bottom plate being tilted about the second axis toward the gate-shaped frame; ~~wherein the bottom plate provided in the outlet portion is arranged to receive the grass clippings falling off an area around the gate-shaped frame when the grass catcher is in the grass collecting position, and the bottom plate provided in the outlet portion is displaced to a position with a surface thereof being tilted when the grass catcher is swung about the first axis from the grass collecting position to the grass discharging position; and~~

wherein the mower unit is mounted forwardly of rear wheels, the gate-shaped frame is disposed at a rear portion of the vehicle body, and the grass catcher protrudes rearwardly from the vehicle body.

7. (Currently Amended) A riding-type lawn mower as defined in Claim 6 further including a vertically movable link mechanism for vertically moving the gate-shaped frame with the grass catcher relative to the vehicle body.

8. (Currently Amended) A riding-type lawn mower as defined in Claim 6, wherein the gate-shaped frame is fixed to body frames.

9. (New) A riding-type lawn mower as defined in Claim 6, wherein the swing mechanism further swings the bottom plate to be interlocked to swinging of the grass catcher from the grass collecting position to the grass discharging position.

10. (New) A riding-type lawn mower comprising:
a vehicle body having front and rear wheels;
a mower unit mounted forwardly of the rear wheels for cutting grass;
a grass catcher disposed at a rear portion of the vehicle body for collecting grass clippings from said mower unit; and

a grass collecting duct for guiding the grass clippings from the mower unit to the grass catcher;

wherein a bottom plate is disposed at a portion for connecting the mower unit and the grass catcher;

a link mechanism is provided for supporting the grass catcher such that the grass catcher can be raised from its grass collecting position; and

when the link mechanism raises the grass catcher, the bottom plate is raised along with the grass catcher while remaining oriented in a direction of transporting the grass clippings.

11. (New) A riding-type lawn mower as defined in Claim 10, wherein the mower unit is mounted forwardly of rear wheels, and the grass catcher protrudes rearwardly from the vehicle body.

12. (New) A riding-type lawn mower as defined in Claim 10, wherein when the grass catcher raised by the link mechanism is pivoted, the plate surface of the bottom plate is tilted to discharge the grass clippings received thereon.

13. (New) A riding-type lawn mower as defined in Claim 10, wherein the bottom plate has right and left webs standing erect to prevent the grass clippings from falling off lateral sides of the bottom plate.

14. (New) A riding-type lawn mower as defined in Claim 10, wherein:
a frame stands erect from the vehicle body;
the link mechanism is formed into a four-point parallel link mechanism including the frame, upper arm and a lower arm; and
a hydraulic cylinder is disposed between the lower link and a lower portion of the frame, wherein extension and contraction of the hydraulic cylinder raises and lowers the link mechanism.

15. (New) A grass collecting apparatus as defined in Claim 1, wherein the swing mechanism includes an actuator pivotably supported at one end thereof by a lower portion of the gate-shaped frame and at an other end thereof by a pivot link fixed to the grass catcher for swinging the grass catcher about the first axis.

16. (New) A grass collecting apparatus as defined in Claim 15, wherein the swing mechanism further includes a connecting rod fixed at one end thereof to the pivot link and at an other end thereof to a tilt mechanism for tilting the bottom plate about the second axis.

17. (New) A grass collecting apparatus as defined in Claim 6, wherein the swing mechanism includes an actuator pivotably supported at one end thereof by a lower

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portion of the gate-shaped frame and at an other end thereof by a pivot link fixed to the grass catcher for swinging the grass catcher about the first axis.

18. (New) A grass collecting apparatus as defined in Claim 17, wherein the swing mechanism further includes a connecting rod fixed at one end thereof to the pivot link and at an other end thereof to a tilt mechanism for tilting the bottom plate about the second axis.